

WHAT IS CLAIMED IS:

1. A dynamic damper, comprising:

a mass member;

5 a support frame member fixable to a vibrative member, and including a substantially rectangular support frame portion surrounding said mass member with a given gap distance therebetween and having a pair of support sides opposed to each other in a first direction with said mass member disposed therebetween; and

10 a plurality of elastic connecting members disposed in spaces defined between said pair of support sides of said support frame portion and opposing end faces of said mass member, respectively, and elastically connecting said mass member with respect to said pair of support sides of said support frame portion,

15 wherein said support frame portion is deformed so that said pair of support sides are relatively displaced toward each other to pre-compress said plurality of elastic connecting members.

2. A dynamic damper according to claim 1, wherein said

20 mass member has a rectangular block-like shape whose profile is somewhat smaller than an inside profile of said support frame portion, and said pair of support sides of said support frame portion and said opposing end faces of said mass member elastically connected to said support sides via said plurality of elastic connecting member are all plane surfaces mutually
25 parallel and extending in a direction orthogonal to said first direction.

3. A dynamic damper according to claim 2, wherein said

mass member includes a longitudinally central portion and longitudinally opposite end portions whose dimension as measured in said first direction
30 is smaller than that of said longitudinally central portion, and said plurality

of elastic connecting members are bonded to said opposing end faces of said mass member at said longitudinally opposite end portions of said mass member, while said longitudinally central portion of said mass member is adapted to come into contact with said pair of support sides of said support frame portion so as to limit an amount of displacement of said mass member in said first direction.

4. A dynamic damper according to claim 1, wherein said plurality of elastic connecting members are bonded to longitudinally intermediate portions of said pair of support sides of said support frame portion, and at least one of said pair of support sides is deformed to be displaced toward an other of said pair of support sides at an longitudinally intermediate portion thereof to pre-compress said plurality of elastic connecting members.

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5. A dynamic damper according to claim 1, wherein said support frame member includes: a mounting plate having a mounting part fixable to the vibrative member; and a partial frame member having opposite side walls, said partial frame member being superposed on and fixed to one edge portion of said mounting plate at protruding end portions of said side walls and cooperating with said one edge portion to form said support frame portion of overall rectangular shape.

6. A dynamic damper according to claim 1, wherein each 25 of said plurality of elastic connecting members is arranged to exhibit a substantially same spring constant in a second direction in which a center axis of said support frame portion extends and a third direction orthogonal to said first and second directions, and wherein said dynamic damper is adapted to be fixed to a steering shaft with said center axis of said support frame portion being substantially orthogonal to a center axis of said

steering shaft.

7. A dynamic damper according to claim 1, wherein each of said plurality of elastic connecting members is disposed with a center axis thereof extending substantially in said first direction so as to undergo mostly shear deformation as a result of displacement of said mass member in a second direction in which a center axis of said support frame portion extends and a third direction orthogonal to said first and second directions.

10 8. A dynamic damper according to claim 7, wherein each of said plurality of elastic connecting members has an approximately rectangular shape in axial cross section so that said dynamic damper is tuned differently in said second and third directions.

15 9. A method of producing a dynamic damper comprising the steps of:

preparing a mass member;

20 preparing a support frame member fixable to a vibrative member and including a substantially rectangular support frame portion having a pair of support sides opposed to each other in a first direction;

disposing said support frame member with respect to said mass member such that said support frame portion surrounds said mass member with a given gap distance therebetween,

25 molding a plurality of elastic connecting members in a vulcanization process such that said plurality of elastic connecting members are disposed in spaces defined between said pair of support sides of said support frame portion and opposing end faces of said mass member, respectively, and that each of said plurality of said elastic connecting members is bonded to either of said pair of support sides and a corresponding one of said opposing end faces of said mass member; and

deforming said support frame portion to relatively displace said pair of support sides toward each other to pre-compress said plurality of elastic connecting members.

5 10. A method of producing a dynamic damper according to claim 6, wherein said step of deforming said support frame portion includes the step of deforming one of said pair of support sides to be depressed at a longitudinally intermediate portion thereof toward an other one of said pair of support sides to pre-compress said plurality of elastic
10 connecting members.